

# Daily GLOWBUGS

## Digest: V1 #63

via AB4EL Web Digests @ SunSITE

Purpose: building and operating vacuum tube-based QRP rigs

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%%%% GlowBugs %%%%% GlowBugs %%%%% GlowBugs %%%%% GlowBugs %%%%%

**Subject: glowbugs V1 #63**

**glowbugs**

**Tuesday, June 24 1997**

**Volume 01 : Number 063**

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Date: Sun, 22 Jun 1997 20:15:03 -0500 (CDT)

From: Kevin Pease <hamradio@mm1001.theporch.com>

Subject: Globug Rig

I just got my new glowbug rig working. I still have some mechanical things to do but it is now putting out a pretty good CW signal.

I call the rig the 80/40 Meter Peble Pulveriser Deluxe. It is a full dual conversion band image super het for 80 and 40 meters with an old DRAKE RV3 dial drive and PTO for the main tuneing. It uses a 1700 KHZ first IF followed by a collins 800 HZ CW mechanical filter and single IF stage feeding a 12AU7 product detector. It has two stages of audio useing 1/2 of a 12AX7 and a 6AQ5 for output. The audio power is not as good as I am used to with 5 watt IC's but it sounds good on CW so I am happy. It also has audio derived AGC for my tired old ears. Ithe first mixer is a 6EA8 or 6U8 with a 6AU6 for VFO and half of the 6U8 as the VFO buffer. There is no VFO pulling and the rig is pretty stable. I also have a 6BA6 RF amplifier for the selectivety and gain. This rig is pretty HOT. I can hear good signals on just a wire across the floor. It hears real good on the Inverted VEE.

The Transmitter is a 6BM8/ECL-82 triode pentode. It is crystal controlled. I would like to build a VFO for it. Maybe that can bee my next project. an 80/40 meter VFO would be pretty easy to build. The 6BM8 is pretty amazing. it is about the size of the 5763 pentode and puts out 7 watts on 40 meters. It puts out about the same on 80 Meters. The plates on this tube don't even glow. I am useing the receiver to monitor the transmitted signal for a cw sidetone so I cant operate too large a split or I will have no sidetown for my key pounding.

I would like to know where the circuit is for the neon oscilator sidetone that has been published. That would allow me to mute the RX and also operate a wide split for those rockbound people who call me off frequency.

I only have three crystals at this time and only one is usefull I have a 7150 which is good for band calibration I also have a 3990 which is useless but I am useing it to test the transmitter on 75 meters. The only usefull crystal is on 7045 khz. it is not on the 7050 qrp frequency and not on the new 7060 frequency but it is noot in too bad a spot. If anyone can work 7045 then maybe I can work someone from this list.

This whole rig is in a box 6.5 inches tall 9 inches wide and 8.5 inches deep. It is pretty small. It was a chalenge getting everything into the small box but I started out real simple building a regenerator and tx in one box and ended up building a cadalac.

I was going to try transceive but the second and fourth harmonic of 1700 khz are too close the the ham bands whisc would make it hard to get rid of the spurious signal so it is split only.

It has been great fun getting this little rig running. It brings back fond memorys from my youth of sitting out at the picknic table in the back yard under the birch tree building tube receivers. It has been a fun trip down memory lane.

This project is not complete. I have an Smeter and Relout-put meter to connect and as mentioned above I would like to build a temp compensated external VFO for the transmitter in a small box as a companion to this rig so that I don't have to bee rock bound.

Does anyone know who was offering the deal on a bunch of XTALS for 80 and 40 meters in ft-245 cases for us globugites ? I definately need to buy more xtals untill I can get the VFO running. I need the xtals anyway for the simplicity and maybe portable use at field day or something.

I can see that this rig will get used alot. I am going to put it in my bedroom for late night use into a small dipole on 40 meters.

As a side thought I know htat this is glowbug herisy but I am thinking about building a DDS synthysizer into a real small box that will plug into the xtal socket and be a digital xtal replacement. I may even use thumbwheel switches for frequency input. It would be real stable and small and a neat digital xtal thingee.

Kevin Pease  
WB0JZG  
Mount Juliet, TN.

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Date: Sun, 22 Jun 1997 20:21:47 -0500 (CDT)  
From: Kevin Pease <hamradio@mml001.theporch.com>  
Subject: PI-Networks

On the subject of PI-Net outut networks. I use the formula in my 1991 handbook to calculate the impdance for my glowbug rig useing class C and used some miniductor cut per the tables in the same handbook and the rig loads up just fine on 80 and on 40 meters by shorting out about half of the coil.

I have heard the previous discussion about PI-NET discrepancies and I can verify that what is in the handbook works just dandy.

By the way my little 6BM8 puts out 7-8 watts on just 10 to 11 watts input. Pretty good eficiency from an old tube. If I include the filament power the eficiency isn't quite as good. since the filament consumes 1.89 watts uping the input power to abiut 13 watts.

Kevin Pease  
WB0JZG  
Mount Juliet, TN.

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Date: Sun, 22 Jun 1997 20:06:13 -0700 (PDT)  
From: techni@netcom.com (harold meltzer)  
Subject: R-1004

Still searching for an R-1004 receiver,p/o AN/GRC-109. Harold Meltzer

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Date: Sun, 22 Jun 1997 21:11:26 -0600 (MDT)  
From: James P Rybak <jrybak@mesa7.mesa.colorado.edu>  
Subject: Old QSTs For Sale

I have the following issues of QST for sale as a lot. All have attached covers and some are almost like new.

1933 Nov.  
1934 April  
1935 July, Sept.  
1936 April, Dec.  
1937 Feb., June, Aug.  
1939 July, Oct., Nov., Dec.  
1940 Jan., April, Aug., Sept

1941 June, July, Sept.

These old QSTs are a lot of fun to read. These magazines were published before most of us were born. The cover photos and ads alone make the magazines worth getting. There also are a lot of interesting glowbug construction articles.

I will sell the entire lot of 20 for \$35 plus \$8 for shipping. The price is fixed and I will not break up the lot unless the entire lot does not sell. Then the cost will be \$2.50 plus shipping per issue.

Thanks.

Jim W0KSD

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Date: Sun, 22 Jun 1997 20:30:38 -0700 (PDT)  
From: Ken Gordon <keng@uidaho.edu>  
Subject: Re: Globug Rig

> usefull crystal is on 7045 khz.

I can listen for you on 7045 and I have both a 7048 and a 7050 rock for my AN/GRC-109. I generally get on about 0230 and again at about 0430 or so.

Sounds like you did a really neat job on it.

73,

Ken W7EKB

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Date: Mon, 23 Jun 1997 04:08:22 -0700 (PDT)  
From: Ken Gordon <keng@uidaho.edu>  
Subject: 7050/7060 last night...

called on 7050 at 0230 and again 0430. Nothing heard. Called CQ on 7015 immediately answered by K7EW, Steve in Portland, Oregon. He was running 1 watt to a dipole. 569/579. Nice chat. He was quite familiar with the GRC-109.

Couldn't even hear him on the SB-301 (gonna have to check that thing out). Q-5 copy on the R-1004 since 1L6 replaced with better tube.

Details at 11:00.

Ken W7EKB

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Date: Mon, 23 Jun 1997 10:24:34 -0400 (EDT)  
From: "Walter L. Marshall" <wmarshall@CapAccess.org>  
Subject: xformers needed

I need these so I can fire up some of the radios I have without power supplies. The idea is to put them all in one box, and have a universal power supply.

22, 45, 67, 90, 135, 180 volts.

Any, or all of these desired. No pole pigs, please.

Lon

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Date: 23 Jun 1997 10:40 EDT  
From: "Richard Crapse" <rwcrapse@nortel.ca>  
Subject: anybody know the current prices?

a Friend of mine has the following going on the market:

A Drake SSR-1

and

Heathkit TR-108

Any clues as to their abilities and average market prices would be appreciated.

Thanks,

Rick  
KB4TKQ

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Date: Mon, 23 Jun 1997 18:29:08 +0000  
From: Sandy W5TVW <ebjr@worldnet.att.net>  
Subject: Re: xformers needed

At 02:24 PM 6/23/97 +0000, you wrote:  
> I need these so I can fire up some of the radios I have  
> without power supplies. The idea is to put them all in one  
> box, and have a universal power supply.  
> 22, 45, 67, 90, 135, 180 volts.  
> Any, or all of these desired. No pole pigs, please.  
> Lon  
>

Lon,

Sounds like some "battery" gear! Your best bet would be to use a 250-0-250 or so volt power transformer @ 70-90 ma. Use voltage dividers and zener diodes to get your various voltages. I've used that scheme and it works really well.

Also consider using the 5 volt filament winding to supply a diode bridge and a single TO-220 chip adjustable regulator to obtain either 1.5 or 2.0 volts for a DC filament supply. You can use the same winding and another bridge rectifier to get a -3 or -4.5 volt "C" supply as well. I opted to use "AA" pen cells as there is NO drain on the "C" supply usually.

That way you can build a supply that will furnish 6.3 VAC and a 180-250 volts plate supply or the common battery voltages you encounter commonly: 22.5, 45, 67.5, 90, 135 volts. (I use 24, 48, 68 volt zener diodes at 5 watts on my unit)  
73

E. V. Sandy Blaize, W5TVW  
"Boat Anchors collected, restored, repaired, traded and used!"  
417 Ridgewood Drive,  
Metairie, LA., 70001  
ebjr@worldnet.att.net  
\*\*Looking for: 860 tubes, WL-460 tubes\*\*  
\*\*Butternut HF2V antenna, G-R test gear.....\*\*\*

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Date: Mon, 23 Jun 97 13:37:53 PDT  
From: "Adam McLaughlin KD6POC" <kd6poc@jps.net>  
Subject: Link Coupled Matching Networks

Hello There, fellow Glowbuggers!

Today I finished assembling my link coupled antenna tuner for my antenna. =  
It works great! I can get the SWR down flat on this jig, and this makes =  
the transmitter happy.

Now, the questions.

Has anybody else out there used one of these before well enough to guide =  
me through the troubleshooting process?

And, how well can you receive signals through them? Do they do a good job =  
of transferring the RF on receive?

Do these tuners increase feed line radiation in any way? How do they affe =  
ct any harmonics or RFI/TVI situations?

Thanks,

Adam McLaughlin KD6POC  
QRG: 7037 KHz  
kd6poc@jps.net  
<http://www.jps.net/jmclaugh>  
MTC-ARRL-FISTS #3366

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Date: Mon, 23 Jun 1997 16:23:19 -0500 (CDT)  
From: Bob Roehrig <broehrig@admin.aurora.edu>  
Subject: Re: Link Coupled Matchgng Networks

Hi Adam. One thing you didn't say - are you feeding open wire line with it or what?

Efficiency is the same on transmit or receive. If it talks well, it should listen well too.

If you are feeding balanced line and the whole antenna system is balanced, the feedline should not radiate noticeably. The only time I have had problems with such an arrangement is when the impedance on the feedline side is very high - RF all over the shack. I don't like voltage fed antennas!

How did you build the link? A good thing to do is to have the link electrostatically shielded from the tuned coil. Look in the Antenna handbooks on link coupling circuits. Even in plate tanks that are link coupled, they describe how to shield the link. That helps reduce TVI. I usually do it by making the link out of coax cable. Strip the end of the coax and tape the end of the shield. Then connect the center conductor back to the shield at the start of the link winding.

E-mail broehrig@admin.aurora.edu 73 de Bob, K9EUI  
CIS: Data / Telecom Aurora University, Aurora, IL  
630-844-4898 Fax 630-844-5530

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Date: Mon, 23 Jun 1997 16:54:13 -0500  
From: Bob Liesenfeld <wb0poq@visi.com>  
Subject: Tuner

Now, the questions.

> Has anybody else out there used one of these before well enough to guide me >through the troubleshooting process?

> And, how well can you receive signals through them? Do they do a good job of >transferring the RF on receive?

>Do these tuners increase feed line radiation in any way? How do they affect any harmonics or RFI/TVI situations?

Hmmmm... Well I could use a bit more info on the particulars of this tuner, but I believe that an inductively coupled tuner should pass less harmonic energy to the load than the more familiar "T" config, all else being equal. I know that inductively coupled tanks with variable coupling along with a Faraday shield were popular years ago, especially with balanced high Z feedlines. An older copy of the ARRL Handbook should offer much on the subject.

72

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Genuine E-mail From the Land of the Everlasting Icicle...  
Bob Liesenfeld  
wb0poq@visi.com

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Date: Tue, 24 Jun 1997 00:23:14 -0700  
From: Gerald Caouette <ve6nap@oanet.com>  
Subject: Tubes 4 sale

I have the following tubes

As I only want a few of these for my own use  
I am offering the rest for sale

I have 450 NIB/NOS JAN 5933 valves  
These are a military equivalent to the 807  
Same base, pin out and electrical specifications  
But Mil spec. for long life and reliability

looking for \$6.00 US\$ each  
or

4 for 20.00 US\$  
10 for 45.00 US\$  
50 for 200.00 US\$ ( 1 case )  
100 for 375.00 US\$ ( 2 cases )

I have military reaining clamps for the 807/5933 and other  
tube with the same base . Single screw mount toggle type clamp  
looking for \$2.00 U\$ each

I have 60 Jan 7645 Twin tetrodes for sale  
NIB/NOS in original Westinghouse Boxes  
and would like \$ 3.00 U\$ each  
or  
5 for 12.00  
10 for 20.00

I have 10 NIB/NOS Eimac/ Varian JAN 8167 / 4CX300A  
Metal Ceramic tubes  
These list for over \$200.00 each I would like \$ 55 U\$ each  
or  
2 for \$100.00 U\$  
3 for \$145.00 U\$  
4 for \$180.00 U\$

I have 50 NIB/NOS JAN 5719 miniature triodes  
and would like \$ 2.50 U\$ each  
or  
5 for \$10.00 U\$  
25 for 48.00 U\$  
50 for \$90.00 U\$

#### Metal Enclosed Relays

- - New time delay relays  
Flange mount  
Solder terminals  
6.3 Volt heater  
SPST N.O. 3A @ 250 VAC  
your choice 60 Second or 85 Second version  
  
Great for soft starting that Amp and reducing the  
thump when you turn on your amp.

\$ 5.00 each

- - NEW sealed metal case relay  
Mil Spec 25267-A1 Class B8  
4 point stud mount  
Solder terminals  
115VAC coil with internal 1/2 wave rectifier  
Works ok at 48 VDC  
4PDT 5 Amp @ 28 VDC or 115VAC up to 400 HZ  
leach corp / Part # 9220 - 4186

\$ 20.00 each  
\$ 30.00 for 2

TRW Cinch terminal strips  
NEW - Part # 10-172-Y

\$10.00 for a box of 10 terminal strips

All prices are in US funds

Shippng costs are extra

email if intrested  
to  
ve6anp@oanet.com  
Edmonton, Alberta, Canada

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End of glowbugs V1 #63  
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